

DATA VALIDATION REPORT

Gold King Mine Long Term Monitoring

SAMPLE DELIVERY GROUP: 680-130404-1

Prepared by

MEC^X 12269 East Vassar Drive Aurora, CO 80014



I. INTRODUCTION

Task Order Title: Gold King Mine Long Term Monitoring

Project No.: 20408.012.001.0397.00

Sample Delivery Group: 680-130404-1
EPA Project Manager: Steve Merritt
Weston Project Manager: Mark Blanchard

TDD No.: 0001/1510-02 Matrix: Water/ Sediment

QC Level: Stage 2A

No. of Samples: 8
No. of Reanalyses/Dilutions: 0

Laboratory: TestAmerica - Savannah

This data validation report was revised to correct sample ID ADW-010_SED_100116 on the validated sample result forms. This report is presented as Revision 1.

Table 1. Sample Identification

Location ID	Lab Sample Name	Matrix Type	Collection Date	Method
ADW-010_100116	680-130404-1	Water	10/1/16 9:45 AM	200.7, 200.8, 245.1, 2320B, 2340B, 2540 D, 5310 B
ADW- 010_SED_100116	680-130404-2	Sediment	10/1/16 9:45 AM	6010C, 6020A, 7471A
ADW-021_100116	680-130404-3	Water	10/1/16 8:15 AM	200.7, 200.8, 245.1, 2320B, 2340B, 2540 D, 5310 B
ADW- 021_SED_100116	680-130404-4	Sediment	10/1/16 8:15 AM	6010C, 6020A, 7471A
ADW-022_093016	680-130404-5	Water	9/30/16 8:30 AM	200.7, 200.8, 245.1, 2320B, 2340B, 2540 D, 5310 B
ADW- 022_SED_093016	680-130404-6	Sediment	9/30/16 8:30 AM	6010C, 6020A, 7471A
GKM05_093016	680-130404-7	Water	9/30/16 4:15 PM	200.7, 200.8, 245.1, 2320B, 2340B, 2540 D, 5310 B
GKM05_SED_093016	680-130404-8	Sediment	9/30/16 4:15 PM	6010C, 6020A, 7471A

II. Sample Management

Anomalies regarding sample management are noted below. The samples were received within the temperature limits of >0°C to <6°C. The samples were received intact, on ice and properly preserved. Custody seals on shipping and sample containers were intact. The chains-of-custody (COCs) were appropriately signed and dated by field and laboratory personnel.



The following issue was noted by the reviewer: sample ADW-010-SED_100116 was mis-logged by the laboratory as ADW-010_SED_10016. The ID was corrected by the reviewer in this report.

2 Revision 1



Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
UB	The analyte was detected in the sample and in either the associated laboratory blank or field blank. If detected below the reporting limit (RL) the analyte result was reported as nondetected at the RL due to blank contamination. If detected above the RL, the analyte result was reported as non-detected at the reported result due to blank contamination.	The analyte was detected in the sample and in either the associated laboratory blank or field blank. If detected below the reporting limit (RL) the analyte result was reported as non-detected at the RL due to blank contamination. If detected above the RL, the analyte result was reported as non-detected at the reported result due to blank contamination.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential positive bias.
J-	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential negative bias.



DATA VALIDATION REPORT

Qualifier	Organics	Inorganics
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
UJB	The analyte was detected in the sample and in either the associated laboratory blank or field blank; the analyte result was reported as non-detected at either the RL or the reported result. The reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The analyte was detected in the sample and in either the associated laboratory blank or field blank; the analyte result was reported as non-detected at either the RL or the reported result. The reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.



Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
С	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995 or calibration was noncompliant.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
В	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
L1	LCS/LCSD RPD was outside control limits.	LCS/LCSD RPD was outside control limits.
Q	MS/MSD recovery was poor.	MS recovery was poor.
Q1	MS/MSD RPD was outside control limits.	MS/MSD RPD was outside control limits.
Е	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
Α	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	ICPMS tune was not compliant.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
F1	Field duplicate results were outside the control limit.	Field duplicate results were outside the control limit.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.



DATA VALIDATION REPORT

Qualifier	Organics	Inorganics
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
Р	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*11, *111	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.



III. Method Analyses

A. Contract Laboratory Program Statement of Work for Inorganic Superfund Methods 200.7, 200.8, 245.1, 6010C, 6020A, 7471A—Metals and Mercury

Reviewed By: M. Hilchey

Date Reviewed: October 24, 2016

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the Quality Assurance Project Plan for U.S. EPA Region 8 CERCLA Site Assessment; Sampling and Analysis Plan/Quality Assurance Project Plan for Gold King Mine Release, Silverton, San Juan County, Colorado (2015); United States Environmental Protection Agency Contract Laboratory Program Statement of Work for Inorganic Superfund Methods; EPA Methods 200.7, 200.8, 245.1, 6010C, 6020A and 7471A; and the National Functional Guidelines for Inorganic Superfund Data Review (2014).

- Holding Times: The analytical holding times, 28 days for mercury and six months for the remaining metals, were met.
- Analytical Method Blanks: No target analytes were reported in the method blanks with the
 exceptions of chromium (0.127 mg/Kg) and vanadium (0.402 mg/Kg) in the sediment
 method blank; however, these were insufficient to qualify associated site sample results.
- Laboratory Control Samples (LCS): The recoveries were within laboratory control limits of 75-125% for methods 6010C and 6020A, 85-115% for methods 200.7, 200.8 and 245.1, and 80-120% for method 7471A with the exception of beryllium for method 200.8 (116%). Results for total and dissolved beryllium in the aqueous samples were all nondetects and required no qualification.
- Laboratory Duplicates: Laboratory duplicate analyses were not performed on a sample from this SDG. Method precision was evaluated based on matrix spike/matrix spike duplicate results.
- Matrix Spike/Matrix Spike Duplicate (MS/MSD): MS/MSD analyses were performed on the samples below.

Parent Sample	Analysis
ADW-021_100116 and	200.7 (total metals only), 200.8
ADW-010_100116	(total metals only)
GKM05_093016	(245.1 total Hg only)
ADW010_SED_100116	6010C, 6020A, 7471A



Results were not assessed when the native concentration was more than 4× the spike amount. The recoveries were within the laboratory control limits of 75-125% for methods 200.7, 6010C and 6020A, 80-120% for method 7471, and 70-130% for methods 200.8 and 245.1 except as noted in the table below. All associated detected sample results were qualified as estimated (J+ for recoveries above the QC limit, J- for recoveries below the QC limit). All nondetected sample results associated with recoveries below the QC limit were qualified as estimated nondetects (UJ). The RPDs were ≤20%.

Analyte	MS/MSD %R	Affected samples
total beryllium	acceptable/134%	ADW-021_100116 (nondetect—no qualification)
total aluminum	acceptable/131%	ADW-010_100116
magnesium	70%/72%	All addiment comples
antimony	69%/72%	All sediment samples

- Post Digestion Spike (PDS): There were no PDS analyses reported in this SDG.
- Serial Dilution: Serial dilution analyses were not reported in this SDG.
- Field QC Samples: MEC^X evaluated field quality control (QC) samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:
 - Field Blanks and Equipment Rinsates: Field blank or equipment blank samples were not identified for this SDG.
 - o Field Duplicates: Field duplicate samples were not identified for this SDG.

B. Methods SM2340B, SM2320B, SM2540D, SM5310B—Total Hardness by calculation, Total Alkalinity, Total Suspended Solids (TSS), Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC)

Reviewed By: M. Hilchey

Date Reviewed: October 24, 2016

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the Quality Assurance Project Plan for U.S. EPA Region 8 CERCLA Site Assessment; Sampling and Analysis Plan/Quality Assurance Project Plan for Gold King Mine Release, Silverton, San Juan County, Colorado (2015); United States Environmental Protection Agency Contract Laboratory Program Statement of Work for Inorganic Superfund Methods; Standard Methods for the Examination of Water and Wastewater 2340B, 2320B, 2540D and 5310B; and the National Functional Guidelines for Superfund Inorganic Data Review (2014).

8 Revision 1



- Holding Times: The analytical holding times, as listed below, were met.
 - o Total Hardness (SM2340B) 180 days
 - o Total Alkalinity (SM2320B) 14 days
 - Total Suspended Solids (SM2540D) 7 days
 - o Total Organic Carbon (SM5310B)- 28 days
 - Dissolved Organic Carbon (SM5310B) 28 days
- Analytical Method Blanks: There were no detects in the method blanks.
- Laboratory Control Samples: LCS/LCSD recoveries were within the laboratory control limits of 80-120% for all methods, and RPDs were within the laboratory control limits of ≤30% for alkalinity, ≤20% for DOC, and ≤25% for TSS and TOC.
- Laboratory Duplicates: Laboratory duplicate analyses were not performed on samples from this SDG.
- Matrix Spike/Matrix Spike Duplicate (MS/MSD): MS/MSD analyses were performed for method 5310 DOC on sample ADW-010_100116. All laboratory recovery and RPD acceptance criteria were met. MS/MSD analyses were not performed for the remaining methods.

Field QC Samples: MEC^x evaluated field quality control (QC) samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^x used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below.

- Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
- Field Duplicates: Field duplicate samples were not identified for this SDG.

9 Revision 1

Validated Sample Result Forms: 680-130404-1

Analysis Method 200.7 Rev 4.4

Sample Name ADW-010_100116 Matrix Type: Water

Lab Sample Name: 680-130404-1 **Sample Date:** 10/1/2016 9:45:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	800	200	24	ug/L	F1	J+	Q
Aluminum, Dissolved	D	7429-90-5	33	200	24	ug/L	J	J	
Calcium	T	7440-70-2	67000	500	25	ug/L			
Calcium, Dissolved	D	7440-70-2	66000	500	25	ug/L			
Iron	T	7439-89-6	700	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	17	50	17	ug/L	U	U	
Magnesium	T	7439-95-4	9800	500	33	ug/L			
Magnesium, Dissolved	D	7439-95-4	9600	500	33	ug/L			
Potassium	T	7440-09-7	2800	1000	17	ug/L			
Potassium, Dissolve	d D	7440-09-7	2600	1000	17	ug/L			
Sodium	T	7440-23-5	17000	1000	480	ug/L			
Sodium, Dissolved	D	7440-23-5	17000	1000	480	ug/L			

Sample Name ADW-021_100116 Matrix Type: Water

Lab Sample Name: 680-130404-3 **Sample Date:** 10/1/2016 8:15:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	730	200	24	ug/L			
Aluminum, Dissolved	D	7429-90-5	33	200	24	ug/L	J	J	
Calcium	T	7440-70-2	65000	500	25	ug/L			
Calcium, Dissolved	D	7440-70-2	64000	500	25	ug/L			
Iron	T	7439-89-6	650	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	17	50	17	ug/L	U	U	
Magnesium	T	7439-95-4	9700	500	33	ug/L			
Magnesium, Dissolved	D	7439-95-4	9500	500	33	ug/L			
Potassium	T	7440-09-7	2700	1000	17	ug/L			
Potassium, Dissolve	d D	7440-09-7	2600	1000	17	ug/L			
Sodium	T	7440-23-5	16000	1000	480	ug/L			
Sodium, Dissolved	D	7440-23-5	16000	1000	480	ug/L			

Tuesday, November 01, 2016 Page 1 of 13

Analysis Method 200.7 Rev 4.4

Sample Name ADW-022_093016 Matrix Type: Water

Lab Sample Name: 680-130404-5 **Sample Date:** 9/30/2016 8:30:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	790	200	24	ug/L			
Aluminum, Dissolved	D	7429-90-5	30	200	24	ug/L	J	J	
Calcium	T	7440-70-2	60000	500	25	ug/L			
Calcium, Dissolved	D	7440-70-2	60000	500	25	ug/L			
Iron	T	7439-89-6	700	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	17	50	17	ug/L	U	U	
Magnesium	T	7439-95-4	8900	500	33	ug/L			
Magnesium, Dissolved	D	7439-95-4	8800	500	33	ug/L			
Potassium	T	7440-09-7	2600	1000	17	ug/L			
Potassium, Dissolve	d D	7440-09-7	2400	1000	17	ug/L			
Sodium	T	7440-23-5	14000	1000	480	ug/L			
Sodium, Dissolved	D	7440-23-5	14000	1000	480	ug/L			

Sample Name GKM05_093016 Matrix Type: Water

Lab Sample Name: 680-130404-7 **Sample Date:** 9/30/2016 4:15:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	Т	7429-90-5	200	200	24	ug/L			
Aluminum, Dissolved	D	7429-90-5	39	200	24	ug/L	J	J	
Calcium	T	7440-70-2	59000	500	25	ug/L			
Calcium, Dissolved	D	7440-70-2	58000	500	25	ug/L			
Iron	T	7439-89-6	260	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	17	50	17	ug/L	U	U	
Magnesium	T	7439-95-4	7800	500	33	ug/L			
Magnesium, Dissolved	D	7439-95-4	7700	500	33	ug/L			
Potassium	T	7440-09-7	2400	1000	17	ug/L			
Potassium, Dissolve	d D	7440-09-7	2400	1000	17	ug/L			
Sodium	T	7440-23-5	11000	1000	480	ug/L			
Sodium, Dissolved	D	7440-23-5	11000	1000	480	ug/L			

Tuesday, November 01, 2016 Page 2 of 13

Sample Name ADW-010_100116 Matrix Type: Water

Lab Sample Name: 680-130404-1 **Sample Date:** 10/1/2016 9:45:00 AM

Analyte	Total/Dissolved	CAS No	Result	Reporting	MDL				** ** **
Anaryte	1 otal/Dissolved	CAS NO	Value	Limit	MIDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum, Dissolved	D	7429-90-5	32	10	4.6	ug/L			
Antimony	T	7440-36-0	0.4	1	0.4	ug/L	U	U	
Antimony, Dissolved	D	7440-36-0	0.4	1	0.4	ug/L	U	U	
Arsenic	T	7440-38-2	0.89	1	0.37	ug/L	J	J	
Arsenic, Dissolved	D	7440-38-2	0.64	1	0.37	ug/L	J	J	
Barium	T	7440-39-3	87	2	0.14	ug/L			
Barium, Dissolved	D	7440-39-3	71	2	0.14	ug/L			
Beryllium	T	7440-41-7	0.15	0.4	0.15	ug/L	U *	U	
Beryllium, Dissolved	D	7440-41-7	0.15	0.4	0.15	ug/L	U * ^	U	
Cadmium	T	7440-43-9	0.043	0.5	0.043	ug/L	U	U	
Cadmium, Dissolved	D	7440-43-9	0.043	0.5	0.043	ug/L	U	U	
Chromium	T	7440-47-3	1	2	1	ug/L	U	U	
Chromium, Dissolved	D	7440-47-3	1	2	1	ug/L	U	U	
Cobalt	T	7440-48-4	0.58	0.4	0.12	ug/L			
Cobalt, Dissolved	D	7440-48-4	0.13	0.4	0.12	ug/L	J	J	
Copper	T	7440-50-8	3.3	5	0.5	ug/L	J	J	
Copper, Dissolved	D	7440-50-8	1.4	5	0.5	ug/L	J	J	
Lead	T	7439-92-1	2.9	0.3	0.06	ug/L			
Lead, Dissolved	D	7439-92-1	0.06	0.3	0.06	ug/L	U	U	
Manganese	T	7439-96-5	120	2.5	1.2	ug/L			
Manganese, Dissolved	D	7439-96-5	24	2.5	1.2	ug/L			
Molybdenum	T	7439-98-7	1.2	1	0.45	ug/L			
Molybdenum, Dissolved	D	7439-98-7	1.2	1	0.45	ug/L			
Nickel	T	7440-02-0	1.5	5	0.4	ug/L	J	J	
Nickel, Dissolved	D	7440-02-0	1.4	5	0.4	ug/L	J	J	
Selenium	T	7782-49-2	0.58	2	0.58	ug/L	U	U	
Selenium, Dissolved	D	7782-49-2	0.58	2	0.58	ug/L	U	U	
Silver	T	7440-22-4	0.1	1	0.1	ug/L	U	U	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium	T	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Thallium, Dissolved	D	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Vanadium	T	7440-62-2	1.5	1	0.3	ug/L			
Vanadium, Dissolved	D	7440-62-2	0.38	1	0.3	ug/L	J	J	
Zinc	T	7440-66-6	31	20	2.8	ug/L			
Zinc, Dissolved	D	7440-66-6	4	20	2.8	ug/L	J	J	

Tuesday, November 01, 2016 Page 3 of 13

Sample Name ADW-021_100116 Matrix Type: Water

Lab Sample Name: 680-130404-3 **Sample Date:** 10/1/2016 8:15:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum, Dissolved	D	7429-90-5	33	10	4.6	ug/L			
Antimony	T	7440-36-0	0.4	1	0.4	ug/L	U	U	
Antimony, Dissolved	D	7440-36-0	0.4	1	0.4	ug/L	U	U	
Arsenic	T	7440-38-2	1.4	1	0.37	ug/L			
Arsenic, Dissolved	D	7440-38-2	0.84	1	0.37	ug/L	J	J	
Barium	T	7440-39-3	81	2	0.14	ug/L			
Barium, Dissolved	D	7440-39-3	71	2	0.14	ug/L			
Beryllium	T	7440-41-7	0.15	0.4	0.15	ug/L	U F1 * ^	U	
Beryllium, Dissolved	D	7440-41-7	0.15	0.4	0.15	ug/L	U * ^	U	
Cadmium	T	7440-43-9	0.043	0.5	0.043	ug/L	U	U	
Cadmium, Dissolved	D	7440-43-9	0.043	0.5	0.043	ug/L	U	U	
Chromium	T	7440-47-3	1	2	1	ug/L	U	U	
Chromium, Dissolved	D	7440-47-3	1	2	1	ug/L	U	U	
Cobalt	T	7440-48-4	0.48	0.4	0.12	ug/L			
Cobalt, Dissolved	D	7440-48-4	0.13	0.4	0.12	ug/L	J	J	
Copper	T	7440-50-8	2.7	5	0.5	ug/L	J	J	
Copper, Dissolved	D	7440-50-8	1.6	5	0.5	ug/L	J	J	
Lead	T	7439-92-1	2.3	0.3	0.06	ug/L			
Lead, Dissolved	D	7439-92-1	0.06	0.3	0.06	ug/L	U	U	
Manganese	T	7439-96-5	96	2.5	1.2	ug/L			
Manganese, Dissolved	D	7439-96-5	15	2.5	1.2	ug/L			
Molybdenum	T	7439-98-7	1.2	1	0.45	ug/L			
Molybdenum, Dissolved	D	7439-98-7	1.2	1	0.45	ug/L			
Nickel	T	7440-02-0	1.3	5	0.4	ug/L	J	J	
Nickel, Dissolved	D	7440-02-0	0.99	5	0.4	ug/L	J	J	
Selenium	T	7782-49-2	0.58	2	0.58	ug/L	U	U	
Selenium, Dissolved	D	7782-49-2	0.58	2	0.58	ug/L	U	U	
Silver	T	7440-22-4	0.1	1	0.1	ug/L	U	U	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Гhallium	T	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Thallium, Dissolved	D	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Vanadium	T	7440-62-2	1.4	1	0.3	ug/L			
Vanadium, Dissolved	D	7440-62-2	0.37	1	0.3	ug/L	J	J	
Zinc	T	7440-66-6	29	20	2.8	ug/L			
Zinc, Dissolved	D	7440-66-6	5	20	2.8	ug/L	J	J	

Tuesday, November 01, 2016 Page 4 of 13

Sample Name ADW-022_093016 Matrix Type: Water

Lab Sample Name: 680-130404-5 **Sample Date:** 9/30/2016 8:30:00 AM

Aluminum, D	Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony, Dissolved D 7440-36-0 0.66 1 0.4 ug/l. J J Assenic T 7440-38-2 1.1 1 0.37 ug/l. Ansenic T 7440-38-2 1.1 1 0.37 ug/l. Ansenic Dissolved D 7440-38-2 1.2 1 0.37 ug/l. Barium T 7440-39-3 78 2 0.14 ug/l. Barium Dissolved D 7440-39-3 70 2 0.14 ug/l. Berylliam T 7440-41-7 0.15 0.4 0.15 ug/l. U * ^ U Berylliam T 7440-41-7 0.15 0.4 0.15 ug/l. U * ^ U Cadmium Dissolved D 7440-43-9 0.043 0.5 0.043 ug/l. U U U Cadmium T 7440-43-9 0.043 0.5 0.043 ug/l. U U U Cadmium T 7440-47-3 1 2 1 ug/l. U U Chromium T 7440-47-3 1 2 1 ug/l. U U Chromium D 7440-48-4 0.48 0.4 0.12 ug/l. Chromium D 7440-48-4 0.48 0.4 0.12 ug/l. Cobalt T 7440-58-8 1.2 5 0.5 ug/l. J J Lead T 7439-92-1 0.4 0.3 0.06 ug/l. Lead T 7439-92-1 0.4 0.3 0.06 ug/l. Lead T 7439-92-1 0.4 0.3 0.6 ug/l. U U Manganese T 7439-98-7 1.1 1 0.45 ug/l. Manganese D 7439-98-7 1.1 1 0.45 ug/l. Manganese D 7439-98-7 1.1 1 0.45 ug/l. Manganese D 7439-98-7 1.1 1 0.45 ug/l. Molybdenum T 7440-0.0 1.3 5 0.4 ug/l. U U Selenium T 7440-0.0 1.3 5 0.4 ug/l. U U Selenium T 7440-0.0 1.3 5 0.4 ug/l. U U Selenium T 7440-0.0 1.3 5 0.4 ug/l. J J Selenium T 7440-0.0 1.3 5 0.4 ug/l. U U Selenium T 7440-0.0 1.3 5 0.4 ug/l. J J Selenium T 7440-0.0 1.3 5 0.4 ug/l. U U Selenium T 7440-0.0 1.3 5 0.4 ug/l. J J Selenium T 7440-0.0 1.3 5 0.4 ug/l. U U Selenium T 7440-0.0 1.3 5 0.4 ug/l. U U Selenium T 7440-0.0 0.88 5 0.4 ug/l. U U Selenium T 7440-0.0 0.88 5 0.4 ug/l. U U Selenium T 7440-0.0 0.88 5 0.4 ug/l. U U Selenium T 7440-0.0 0.88 5 0.4 ug/l. U U Selenium T 7440-0.0 0.88 5 0.4 ug/l. U U Selenium T 7440-0.0 0.88 5 0.4 ug/l. U U Selenium T 7440-0.0 0.89 0.0 0.3 ug/l. U U Selenium T 7440-0.0 0.89 0.0 0.4 ug/l. U U Selenium T 7440-0.0 0.89 0.0 0.4 ug/l. U U Selenium T 7440-0.0 0.89 0.0 0.4 ug/l. U U Selenium T 7440-0.0 0.89 0.0 0.4 ug/l. U U Selenium T 7440-0.0 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		D	7429-90-5	32	10	4.6	ug/L			
Arsenic T 7440-38-2 1.1 1 0.37 ug/L Arsenic, Dissolved D 7440-38-2 1.2 1 0.37 ug/L Arsenic, Dissolved D 7440-38-2 1.2 1 0.37 ug/L Barium T 7440-39-3 78 2 0.14 ug/L Beryllium T 7440-31-7 0.15 0.4 0.15 ug/L U*^ U Beryllium, Dissolved D 7440-41-7 0.15 0.4 0.15 ug/L U*^ U Beryllium, Dissolved D 7440-41-7 0.15 0.4 0.15 ug/L U*^ U Cadmium, Dissolved D 7440-41-7 0.15 0.4 0.15 ug/L U U* U Cadmium T 7440-41-7 0.15 0.4 0.15 ug/L U U U Cadmium T 7440-41-7 1 0.15 0.4 0.15 ug/L U U U Cadmium T 7440-41-7 1 0.15 0.4 0.15 ug/L U U U Cadmium T 7440-41-7 1 1 2 1 ug/L U U Chromium T 7440-41-7 1 1 2 1 ug/L U U Chromium T 7440-41-7 1 1 2 1 ug/L U U Chromium T 7440-41-8 1 2 1 ug/L U U Chromium D 7440-41-8 1 2 1 ug/L U U Chromium D 7440-41-8 1 2 1 ug/L U U Chromium D 7440-48-4 0.48 0.4 0.12 ug/L U U Cobalt T 7440-48-4 0.48 0.4 0.12 ug/L U U Cobalt T 7440-8-8 2.8 5 0.5 ug/L J J J Copper T 7440-8-8 2.8 5 0.5 ug/L J J J Copper T 7440-8-9 1.2 5 0.5 ug/L U U Manganese D 7449-9-1 2.4 0.3 0.06 ug/L Manganese T 7439-9-2 0.6 0.3 0.06 ug/L U U Manganese D 7439-9-2 0.06 0.3 0.06 ug/L Manganese D 7439-9-5 100 2.5 1.2 ug/L Manganese D 7439-9-5 1 1 0 0.45 ug/L Manganese D 7439-9-7 1 1 0 0.45 ug/L Manganese D 7439-9-8 1 1 0 0.45 ug/L Manganese D 7439-9-8 1 1 0 0.45 ug/L Molybdenum D 7440-0-0 0.88 5 0 0.4 ug/L J J Molybdenum T 7440-0-0 0.88 5 0 0.4 ug/L U U Selenium T 7782-49-2 0.58 2 0.58 ug/L Molybdenum T 7782-49-2 0.58 2 0.58 ug/L U U Silver T 7440-2-4 0.1 1 0.1 ug/L U U Silver T 7440-2-4 0.1 1 0.1 ug/L U U Silver T 7440-2-4 0.1 1 0.1 ug/L U U Vanadium T 7440-6-6 0.1 0.2 0.1 ug/L U U Vanadium T 7440-6-6 0.1 0.2 0.1 ug/L U U Vanadium T 7440-6-6 0.1 0.2 0.1 ug/L U U Vanadium T 7440-6-6 0.1 0.2 0.1 ug/L U U Vanadium T 7440-6-6 0.1 0.2 0.1 ug/L U U Vanadium T 7440-6-6 0.1 0.2 0.1 ug/L U U Vanadium T 7440-6-6 0.1 0.2 0.1 ug/L U U Vanadium T 7440-6-6 0.1 0.2 0.1 ug/L U U Vanadium T 7440-6-6 0.1 0.2 0.3 ug/L U U U	Antimony	T	7440-36-0	0.4	1	0.4	ug/L	U	U	
Arsenic, Dissolved D 7440-38-2 1.2 1 0.37 ug/L Barium T 7440-39-3 78 2 0.14 ug/L Barium T 7440-39-3 70 2 0.14 ug/L Beryllium T 7440-41-7 0.15 0.4 0.15 ug/L U*^ U*^ UBeryllium T 7440-41-7 0.15 0.4 0.15 ug/L U*^ U 0 Cadmium T 7440-41-7 0.15 0.4 0.15 ug/L U*^ U 0 Cadmium T 7440-41-9 0.043 0.5 0.043 ug/L U *^ U 0 Cadmium T 7440-43-9 0.043 0.5 0.043 ug/L U U Cadmium T 7440-43-9 0.043 0.5 0.043 ug/L U U Cadmium T 7440-43-9 0.043 0.5 0.043 ug/L U U Cadmium T 7440-43-9 0.043 0.5 0.043 ug/L U U Cadmium T 7440-43-9 0.043 0.5 0.043 ug/L U U Cadmium T 7440-43-9 0.043 0.5 0.043 ug/L U U Cadmium T 7440-43-9 0.043 0.5 0.043 ug/L U U Colonium, D 7440-43-9 0.043 0.5 0.043 ug/L U U Colonium, D 7440-43-9 0.043 0.5 0.043 ug/L U U Colonium, D 7440-43-9 0.043 0.5 0.043 ug/L U U Colonium, D 7440-48-4 0.48 0.4 0.12 ug/L U U Colonium, D 7440-48-4 0.48 0.4 0.12 ug/L J J Cobalt T 7440-84-8 0.2 0.4 0.12 ug/L J J Copper D 7440-84-8 0.2 0.5 ug/L J J Lead T 7439-92-1 0.06 0.3 0.06 ug/L Lead T 7439-92-1 0.06 0.3 0.06 ug/L Lead T 7439-96-5 100 0.5 1.2 ug/L Manganese, D 7439-96-5 100 0.5 1.2 ug/L Manganese, D 7439-96-5 114 0.5 1.2 ug/L Manganese, D 7439-98-7 1.1 1 0.45 ug/L Manganese, D 7439-98-7 1.1 1 0.45 ug/L Molybdenum T 7439-98-7 1.1 1 0.45 ug/L Molybdenum T 7439-98-7 1.1 1 0.45 ug/L Solved T 7440-02-0 1.3 5 0.4 ug/L J J Solved T 7440-02-0 0.88 5 0.4 ug/L J J J Solved T 7440-02-0 0.88 5 0.4 ug/L U U Solved T 7440-02-0 0.88 5 0.4 ug/L U U Solved D 7440-02-0 0.88 5 0.4 ug/L U U Solved T 7440-02-0 0.88 5 0.4 ug/L U U Solved T 7440-02-0 0.88 0.5 0.4 ug/L U U Thallium T 7440-02-0 0.88 0.0 0.4 ug/L U U Thallium T 7440-02-0 0.1 0.2 0.1 ug/L U U Thallium T 7440-02-0 0.1 0.2 0.1 ug/L U U Thallium T 7440-02-0 0.1 0.2 0.1 ug/L U U Thallium T 7440-02-0 0.1 0.2 0.1 ug/L U U Thallium T 7440-02-0 0.1 0.2 0.1 ug/L U U Thallium T 7440-02-0 0.1 0.2 0.1 ug/L U U Thallium T 7440-02-0 0.36 1.1 0.3 ug/L U U Thallium T 7440-02-0 0.36 1.1 0.3 ug/L U U Thallium T 7440-02-0 0.36 1.1 0.3 ug/L U U Thallium T 7440-02-0 0.	Antimony, Dissolved	D	7440-36-0	0.66	1	0.4	ug/L	J	J	
Barium T 7440-39-3 78 2 0.14 ug/L Barium Dissolved D 7440-39-3 70 2 0.14 ug/L Beryllium T 7440-41-7 0.15 0.4 0.15 ug/L U*^ U Beryllium T 7440-41-7 0.15 0.4 0.15 ug/L U*^ U Beryllium Dissolved D 7440-41-7 0.15 0.4 0.15 ug/L U *^ U Cadmium T 7440-43-9 0.043 0.5 0.043 ug/L U U Cadmium Dissolved D 7440-43-9 0.043 0.5 0.043 ug/L U U Cadmium Dissolved D 7440-43-9 0.043 0.5 0.043 ug/L U U Chromium T 7440-47-3 1 2 1 ug/L U U Chromium D 7440-47-3 1 2 1 ug/L U U Chromium D 7440-48-4 0.48 0.4 0.12 ug/L Cobalt T 7440-48-4 0.48 0.4 0.12 ug/L Cobalt T 7440-8-4 0.27 0.4 0.12 ug/L J J Copper Dissolved D 7440-58 1.2 5 0.5 ug/L J J Lead T 7439-92-1 0.06 0.3 0.06 ug/L Lead T 7439-92-1 0.06 0.3 0.06 ug/L Lead T 7439-92-1 0.06 0.3 0.06 ug/L Manganese T 7439-96-5 14 2.5 1.2 ug/L Manganese D 7439-92-1 1 1 0.45 ug/L Manganese D 7439-92-1 1 1 0.45 ug/L Manganese D 7439-98-7 1 1 1 0.45 ug/L Molybdenum T 7439-98-7 1 1 1 0.45 ug/L Molybdenum T 7440-02-0 1.3 5 0.4 ug/L Molybdenum T 7440-02-0 0.88 5 0.4 ug/L Nickel T 7440-02-0 0.88 5 0.4 ug/L Nickel T 7440-02-0 0.88 5 0.4 ug/L Wickel T 7440-02-0 0.88 5 0.4 ug/L Wickel T 7440-02-0 0.88 5 0.4 ug/L Wickel T 7440-02-0 0.88 2 0.58 ug/L Wickel T 7440-02-0 0.88 5 0.4 ug/L Wickel T 7440-02-0 0.88 5 0.4 ug/L Wickel T 7440-02-0 0.88 5 0.4 ug/L Wickel T 7440-02-0 0.88 2 0.58 ug/L Wickel D 7440-02-0 0.88 2 0.58 ug/L	Arsenic	T	7440-38-2	1.1	1	0.37	ug/L			
Barium, Dissolved D	Arsenic, Dissolved	D	7440-38-2	1.2	1	0.37	ug/L			
Beryllium T	Barium	T	7440-39-3	78	2	0.14	ug/L			
Part December De	Barium, Dissolved	D	7440-39-3	70	2	0.14	ug/L			
Cadmium T 7440-43-9 0.043 0.5 0.043 ug/L U U Cadmium, Dissolved D 7440-43-9 0.043 0.5 0.043 ug/L U U Chromium T 7440-47-3 1 2 1 ug/L U U Dissolved D 7440-48-4 0.48 0.4 0.12 ug/L J J Cobalt, Dissolved D 7440-48-4 0.27 0.4 0.12 ug/L J J Copper T 7440-50-8 2.8 5 0.5 ug/L J J Copper, Dissolved D 7440-50-8 1.2 5 0.5 ug/L J J Lead T 7439-92-1 2.4 0.3 0.06 ug/L U U Manganese T 7439-96-5 100 2.5 1.2 ug/L U U Wolybdenum T 7439-98-7 <	Beryllium	T	7440-41-7	0.15	0.4	0.15	ug/L	U * ^	U	
Cadmium, Dissolved D 7440-43-9 0.043 0.5 0.043 ug/L U U Chronium T 7440-47-3 1 2 1 ug/L U U Chronium, Dissolved D 7440-48-4 0.48 0.4 0.12 ug/L U U Cobalt T 7440-48-4 0.27 0.4 0.12 ug/L J J Copper T 7440-50-8 2.8 5 0.5 ug/L J J Copper, Dissolved D 7440-50-8 1.2 5 0.5 ug/L J J Copper, Dissolved D 7440-50-8 1.2 5 0.5 ug/L J J Lead, Dissolved D 7440-50-8 1.2 5 0.5 ug/L U U U Manganese T 7439-96-5 100 2.5 1.2 ug/L U U U U U U </td <td>Beryllium, Dissolved</td> <td>D</td> <td>7440-41-7</td> <td>0.15</td> <td>0.4</td> <td>0.15</td> <td>ug/L</td> <td>U * ^</td> <td>U</td> <td></td>	Beryllium, Dissolved	D	7440-41-7	0.15	0.4	0.15	ug/L	U * ^	U	
Chromium T	Cadmium	T	7440-43-9	0.043	0.5	0.043	ug/L	U	U	
Chromium, D	Cadmium, Dissolved	D	7440-43-9	0.043	0.5	0.043	ug/L	U	U	
Dissolved T	Chromium	T	7440-47-3	1	2	1	ug/L	U	U	
Cobalt, Dissolved D 7440-48-4 0.27 0.4 0.12 ug/L J J Copper T 7440-50-8 2.8 5 0.5 ug/L J J Copper, Dissolved D 7440-50-8 1.2 5 0.5 ug/L J J Lead T 7439-92-1 2.4 0.3 0.06 ug/L U U Lead, Dissolved D 7439-96-5 100 2.5 1.2 ug/L U U Manganese, Dissolved D 7439-98-7 1 1 0.45 ug/L U		D	7440-47-3	1	2	1	ug/L	U	U	
Copper T	Cobalt	T	7440-48-4	0.48	0.4	0.12	ug/L			
Copper, Dissolved D 7440-50-8 1.2 5 0.5 ug/L J J J Copper, Dissolved D 7440-50-8 1.2 5 0.5 ug/L U U U U U U U U U U U U U U U U U U U	Cobalt, Dissolved	D	7440-48-4	0.27	0.4	0.12	ug/L	J	J	
Care T	Copper	T	7440-50-8	2.8	5	0.5	ug/L	J	J	
Lead, Dissolved D 7439-92-1 0.06 0.3 0.06 ug/L U U Manganese T 7439-96-5 100 2.5 1.2 ug/L Manganese, D 7439-96-5 14 2.5 1.2 ug/L Molybdenum T 7439-98-7 1 1 0.45 ug/L Molybdenum, D 7439-98-7 1.1 1 0.45 ug/L Nickel T 7440-02-0 1.3 5 0.4 ug/L J J Nickel, Dissolved D 7440-02-0 0.88 5 0.4 ug/L J J Selenium T 7782-49-2 0.58 2 0.58 ug/L U U Selenium, Dissolved D 7782-49-2 0.58 2 0.58 ug/L U U Silver, Dissolved D 7440-22-4 0.1 1 0.1 ug/L U U Silver, Dissolved D 7440-22-4 0.1 1 0.1 ug/L U U Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium T 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium T 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium T 7440-66-6 31 20 2.8 ug/L U J Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L J J Zinc T 7440-66-6 31 20 2.8 ug/L	Copper, Dissolved	D	7440-50-8	1.2	5	0.5	ug/L	J	J	
Manganese T 7439-96-5 100 2.5 1.2 ug/L Manganese, D 7439-96-5 14 2.5 1.2 ug/L Molybdenum T 7439-98-7 1 1 0.45 ug/L Molybdenum, D 7439-98-7 1.1 1 0.45 ug/L Molybdenum, D 7439-98-7 1.1 1 0.45 ug/L Nickel T 7440-02-0 1.3 5 0.4 ug/L J J J Nickel, Dissolved D 7440-02-0 0.88 5 0.4 ug/L J J J Selenium T 7782-49-2 0.58 2 0.58 ug/L U U Selenium, Dissolved D 7782-49-2 0.58 2 0.58 ug/L U U Silver T 7440-22-4 0.1 1 0.1 ug/L U U Silver, Dissolved D 7440-22-4 0.1 1 0.1 ug/L U U Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium T 7440-62-2 1.5 1 0.3 ug/L Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L Vanadium, Dissolved D 7440-66-6 31 20 2.8 ug/L	Lead	T	7439-92-1	2.4	0.3	0.06	ug/L			
Manganese, D 7439-96-5 14 2.5 1.2 ug/L Molybdenum T 7439-98-7 1 1 0.45 ug/L Molybdenum, D 7439-98-7 1.1 1 0.45 ug/L Molybdenum, D 7439-98-7 1.1 1 0.45 ug/L Nickel T 7440-02-0 1.3 5 0.4 ug/L J J Nickel, Dissolved D 7440-02-0 0.88 5 0.4 ug/L J J Selenium T 7782-49-2 0.58 2 0.58 ug/L U U Selenium, Dissolved D 7782-49-2 0.58 2 0.58 ug/L U U Silver T 7440-22-4 0.1 1 0.1 ug/L U U Silver, Dissolved D 7440-22-4 0.1 1 0.1 ug/L U U Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Thallium, Dissolved D 7440-28-0 0.1 0.2 0.1 ug/L U U Wanadium, Dissolved D 7440-62-2 1.5 1 0.3 ug/L Wanadium, Dissolved D 7440-66-6 31 20 2.8 ug/L	Lead, Dissolved	D	7439-92-1	0.06	0.3	0.06	ug/L	U	U	
Dissolved Diss	Manganese	T	7439-96-5	100	2.5	1.2	ug/L			
Molybdenum, D		D	7439-96-5	14	2.5	1.2	ug/L			
Dissolved T	Molybdenum	T	7439-98-7	1	1	0.45	ug/L			
Nickel, Dissolved D 7440-02-0 0.88 5 0.4 ug/L J J Selenium T 7782-49-2 0.58 2 0.58 ug/L U U Selenium, Dissolved D 7782-49-2 0.58 2 0.58 ug/L U U Silver T 7440-22-4 0.1 1 0.1 ug/L U U Silver, Dissolved D 7440-22-4 0.1 1 0.1 ug/L U U Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Thallium, Dissolved D 7440-28-0 0.1 0.2 0.1 ug/L U U U U U U U U U U U U U U U U U U U	•	D	7439-98-7	1.1	1	0.45	ug/L			
Selenium T 7782-49-2 0.58 2 0.58 ug/L U U Selenium, Dissolved D 7782-49-2 0.58 2 0.58 ug/L U U Silver T 7440-22-4 0.1 1 0.1 ug/L U U Silver, Dissolved D 7440-22-4 0.1 1 0.1 ug/L U U Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium T 7440-62-2 1.5 1 0.3 ug/L U U Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L J J Zinc T 7440-66-6 31 20 2.8 ug/L	Nickel	T	7440-02-0	1.3	5	0.4	ug/L	J	J	
Selenium, Dissolved D 7782-49-2 0.58 2 0.58 ug/L U U Silver T 7440-22-4 0.1 1 0.1 ug/L U U Silver, Dissolved D 7440-22-4 0.1 1 0.1 ug/L U U Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Thallium, Dissolved D 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium T 7440-62-2 1.5 1 0.3 ug/L Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L Vanadium, Dissolved D 7440-66-6 31 20 2.8 ug/L	Nickel, Dissolved	D	7440-02-0	0.88	5	0.4	ug/L	J	J	
Silver T 7440-22-4 0.1 1 0.1 ug/L U U Silver, Dissolved D 7440-22-4 0.1 1 0.1 ug/L U U Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium, Dissolved D 7440-62-2 1.5 1 0.3 ug/L U U Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L J J Zinc T 7440-66-6 31 20 2.8 ug/L	Selenium	T	7782-49-2	0.58	2	0.58	ug/L	U	U	
Silver, Dissolved D 7440-22-4 0.1 1 0.1 ug/L U U Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Thallium, Dissolved D 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium T 7440-62-2 1.5 1 0.3 ug/L J Zinc T 7440-66-6 31 20 2.8 ug/L	Selenium, Dissolved	D	7782-49-2	0.58	2	0.58	ug/L	U	U	
Thallium T 7440-28-0 0.1 0.2 0.1 ug/L U U Thallium, Dissolved D 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium T 7440-62-2 1.5 1 0.3 ug/L Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L Zinc T 7440-66-6 31 20 2.8 ug/L	Silver	T	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium, Dissolved D 7440-28-0 0.1 0.2 0.1 ug/L U U Vanadium T 7440-62-2 1.5 1 0.3 ug/L Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L J Zinc T 7440-66-6 31 20 2.8 ug/L	Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Vanadium T 7440-62-2 1.5 1 0.3 ug/L Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L J Zinc T 7440-66-6 31 20 2.8 ug/L	Гhallium	T	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Vanadium, Dissolved D 7440-62-2 0.36 1 0.3 ug/L J J Zinc T 7440-66-6 31 20 2.8 ug/L	Γhallium, Dissolved	D	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Zinc T 7440-66-6 31 20 2.8 ug/L	Vanadium	T	7440-62-2	1.5	1	0.3	ug/L			
	Vanadium, Dissolved	l D	7440-62-2	0.36	1	0.3	ug/L	J	J	
Zinc, Dissolved D 7440-66-6 6.2 20 2.8 ug/L J J	Zinc	T	7440-66-6	31	20	2.8	ug/L			
	Zinc, Dissolved	D	7440-66-6	6.2	20	2.8	ug/L	J	J	

Tuesday, November 01, 2016 Page 5 of 13

Sample Name GKM05_093016 Matrix Type: Water

Lab Sample Name: 680-130404-7 **Sample Date:** 9/30/2016 4:15:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	0.4	1	0.4	ug/L	U	U	
Antimony, Dissolved	D	7440-36-0	0.4	1	0.4	ug/L	U	U	
Arsenic	T	7440-38-2	0.43	1	0.37	ug/L	J	J	
Arsenic, Dissolved	D	7440-38-2	0.68	1	0.37	ug/L	J	J	
Barium	T	7440-39-3	40	2	0.14	ug/L			
Barium, Dissolved	D	7440-39-3	42	2	0.14	ug/L			
Beryllium	T	7440-41-7	0.15	0.4	0.15	ug/L	U * ^	U	
Beryllium, Dissolved	D	7440-41-7	0.15	0.4	0.15	ug/L	U * ^	U	
Cadmium	T	7440-43-9	0.043	0.5	0.043	ug/L	U	U	
Cadmium, Dissolved	D	7440-43-9	0.043	0.5	0.043	ug/L	U	U	
Chromium	T	7440-47-3	1	2	1	ug/L	U	U	
Chromium, Dissolved	D	7440-47-3	1	2	1	ug/L	U	U	
Cobalt	T	7440-48-4	0.3	0.4	0.12	ug/L	J	J	
Cobalt, Dissolved	D	7440-48-4	0.2	0.4	0.12	ug/L	J	J	
Copper	T	7440-50-8	2.1	5	0.5	ug/L	J	J	
Copper, Dissolved	D	7440-50-8	1.9	5	0.5	ug/L	J	J	
Lead	T	7439-92-1	1.4	0.3	0.06	ug/L			
Lead, Dissolved	D	7439-92-1	0.1	0.3	0.06	ug/L	J	J	
Manganese	T	7439-96-5	110	2.5	1.2	ug/L			
Manganese, Dissolved	D	7439-96-5	56	2.5	1.2	ug/L			
Molybdenum	T	7439-98-7	0.71	1	0.45	ug/L	J	J	
Molybdenum, Dissolved	D	7439-98-7	0.77	1	0.45	ug/L	J	J	
Nickel	T	7440-02-0	1.1	5	0.4	ug/L	J	J	
Nickel, Dissolved	D	7440-02-0	2.1	5	0.4	ug/L	J	J	
Selenium	T	7782-49-2	0.58	2	0.58	ug/L	U	U	
Selenium, Dissolved	D	7782-49-2	0.58	2	0.58	ug/L	U	U	
Silver	T	7440-22-4	0.1	1	0.1	ug/L	U	U	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium	T	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Thallium, Dissolved	D	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Vanadium	T	7440-62-2	0.3	1	0.3	ug/L	U	U	
Vanadium, Dissolved	l D	7440-62-2	0.3	1	0.3	ug/L	U	U	
Zinc	T	7440-66-6	48	20	2.8	ug/L			
Zinc, Dissolved	D	7440-66-6	30	20	2.8	ug/L			

Tuesday, November 01, 2016 Page 6 of 13

Anaiysis meinoa 2520D-201	Analysis	Method	2320B-2011
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Tuesday, November 01, 2016

Anatysis W	remo	2320	U D- 2011							
Sample Name	e	ADW-010_	100116					Matrix Type	• Water	
Lab Sample Na	ame:	680-130404-1	Sam	ple Date:	10/1/2016 9:45:00 AM					
Analyte	Total	l/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity	T		STL00171	110	5	5	mg/L			
Sample Name	e	ADW-021_	100116					Matrix Type	: Water	
Lab Sample Na	ame:	680-130404-3	Sam	ple Date:	10/1/2016 8:15:00 AM					
Analyte	Total	l/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity	T		STL00171	110	5	5	mg/L			
Sample Name	e	ADW-022_	093016					Matrix Type	: Water	
Lab Sample Na	ame:	680-130404-5	Sam	ple Date:	9/30/2016 8:30:00 AM					
Analyte	Total	l/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity	Т		STL00171	100	5	5	mg/L			
Sample Name	e	GKM05_09	93016					Matrix Type	: Water	
Lab Sample Na	ame:	680-130404-7	Sam	ple Date:	9/30/2016 4:15:00 PM					
Analyte	Total	l/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Alkalinity	T		STL00171	79	5	5	mg/L			
Analysis M	1etho	od 2340	0B-2011							
Sample Name	e	ADW-010_	100116					Matrix Type	: Water	
Lab Sample Na	ame:	680-130404-1	Sam	ple Date:	10/1/2016 9:45:00 AM					
Analyte	Total	l/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Hardness	T		STL00009	210	3.3	3.3	mg/L			
Sample Name	e	ADW-021_	100116					Matrix Type	: Water	
Lab Sample Na	ame:	680-130404-3	Sam	ple Date:	10/1/2016 8:15:00 AM					
Analyte	Total	l/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Hardness	Т		STL00009	200	3.3	3.3	mg/L			
Sample Name	e	ADW-022_	093016					Matrix Type	: Water	
Lab Sample Na	ame:	680-130404-5	Sam	ple Date:	9/30/2016 8:30:00 AM					
Analyte	Total	l/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Hardness	T		STL00009	190	3.3	3.3	mg/L			
							-			

Page 7 of 13

	GKM05_0	093016					Matrix Type	: Water	
Lab Sample Nar	me: 680-130404-	7 Samj	ple Date:	9/30/2016 4:15:00 P	M				
Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Hardness	T	STL00009	180	3.3	3.3	mg/L			
Analysis M	Tethod 245	5.1							
Sample Name	ADW-010	_100116					Matrix Type	: Water	
Lab Sample Nar	me: 680-130404-	1 Sam	ple Date:	10/1/2016 9:45:00 A	M				
Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Mercury, Dissolved	D	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Sample Name	ADW-021	_100116					Matrix Type	: Water	
Lab Sample Nar	me: 680-130404-	Samj	ple Date:	10/1/2016 8:15:00 A	M				
Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Mercury, Dissolved	D	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Sample Name	ADW-022	2_093016					Matrix Type	: Water	
Lab Sample Nar	me: 680-130404-	5 Samj	ple Date:	9/30/2016 8:30:00 A	M				
		CACN	Result	Reporting	MDL	Result	Lab	Validation	
Analyte	Total/Dissolved	CAS No	Value	Limit		Units	Qualifier	Qualifier	Notes
	Total/Dissolved	7439-97-6	Value 0.08	Limit 0.2	0.08	Units ug/L	U	U	Notes
Mercury	T				0.08				Notes
Mercury	T	7439-97-6 7439-97-6	0.08	0.2		ug/L ug/L	U	U U	Notes
Mercury Mercury, Dissolved Sample Name	T D GKM05_0	7439-97-6 7439-97-6 093016	0.08	0.2	0.08	ug/L ug/L	U U	U U	Notes
Mercury Mercury, Dissolved Sample Name Lab Sample Nar	T D GKM05_0	7439-97-6 7439-97-6 093016	0.08	0.2	0.08	ug/L ug/L	U U	U U	Validation Notes
Mercury Mercury, Dissolved Sample Name Lab Sample Nar Analyte	T D GKM05_0 me: 680-130404-	7439-97-6 7439-97-6 093016	0.08 0.08 ple Date:	0.2 0.2 9/30/2016 4:15:00 Pl	0.08 M	ug/L ug/L Result	U U Matrix Type	U U : Water	Validation
Mercury Mercury, Dissolved Sample Name Lab Sample Nar Analyte Mercury	T D GKM05_0 me: 680-130404- Total/Dissolved	7439-97-6 7439-97-6 093016 7 Samp CAS No	0.08 0.08 ple Date: Result Value	0.2 0.2 9/30/2016 4:15:00 Pl Reporting Limit	0.08 M MDL	ug/L ug/L Result Units	U Matrix Type Lab Qualifier	U : Water Validation Qualifier	Validation
Mercury Mercury, Dissolved Sample Name Lab Sample Nam Analyte Mercury Mercury, Dissolved	T D GKM05_0 me: 680-130404- Total/Dissolved T	7439-97-6 7439-97-6 093016 7 Samp CAS No	0.08 0.08 ple Date: Result Value 0.08 0.08	0.2 0.2 9/30/2016 4:15:00 Pl Reporting Limit 0.2	0.08 M MDL	ug/L ug/L Result Units ug/L	U U Matrix Type Lab Qualifier	U U : Water Validation Qualifier	Validation
Mercury Mercury, Dissolved Sample Name Lab Sample Nam Analyte Mercury Mercury, Dissolved Analysis M	T D GKM05_0 me: 680-130404- Total/Dissolved T	7439-97-6 7439-97-6 093016 7 Samp CAS No 7439-97-6 7439-97-6 40 D-2011	0.08 0.08 ple Date: Result Value 0.08 0.08	0.2 0.2 9/30/2016 4:15:00 Pl Reporting Limit 0.2	0.08 M MDL	ug/L ug/L Result Units ug/L ug/L	U U Matrix Type Lab Qualifier	U U : Water Validation Qualifier U	Validation
Mercury Mercury, Dissolved Sample Name Lab Sample Nar Analyte Mercury Mercury, Dissolved Analysis M Sample Name	T D GKM05_0 me: 680-130404- Total/Dissolved T D Jethod 254 ADW-010	7439-97-6 7439-97-6 093016 7 Samp CAS No 7439-97-6 7439-97-6 40 D-2011	0.08 0.08 ple Date: Result Value 0.08 0.08	0.2 0.2 9/30/2016 4:15:00 Pl Reporting Limit 0.2	0.08 MDL 0.08 0.08	ug/L ug/L Result Units ug/L ug/L	U U Matrix Type Lab Qualifier U	U U : Water Validation Qualifier U	Validation
Mercury Mercury, Dissolved Sample Name Lab Sample Nar Analyte	T D GKM05_0 me: 680-130404- Total/Dissolved T D Jethod 254 ADW-010	7439-97-6 7439-97-6 093016 7 Samp CAS No 7439-97-6 7439-97-6 40 D-2011	0.08 0.08 ple Date: Result Value 0.08 0.08	0.2 0.2 9/30/2016 4:15:00 Pl Reporting Limit 0.2 0.2	0.08 MDL 0.08 0.08	ug/L ug/L Result Units ug/L ug/L	U U Matrix Type Lab Qualifier U	U U : Water Validation Qualifier U	Validation

Tuesday, November 01, 2016 Page 8 of 13

Analysis	Method	2540 D-2011
I III COLU , DUD	1,100,000	20.02 2011

Sample Name		ADW-021_	100116					Matrix Type	: Water	
Lab Sample Nar	ne:	680-130404-3	Sam	ple Date:	10/1/2016 8:15:00 AM					
Analyte	Total	/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T		STL00161	72	4	4	mg/L			
Sample Name		ADW-022_	093016					Matrix Type	: Water	
Lab Sample Nar	ne:	680-130404-5	Sam	ple Date:	9/30/2016 8:30:00 AM					
Analyte	Total	/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T		STL00161	42	4	4	mg/L			
Sample Name		GKM05_09	3016					Matrix Type	: Water	
Lab Sample Nar	ne:	680-130404-7	Sam	ple Date:	9/30/2016 4:15:00 PM					
Analyte	Total	/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T		STL00161	4	4	4	mg/L	U	U	
Analysis M	etho	d 5310	O B-2011							
Sample Name		ADW-010_	100116					Matrix Type	: Water	
Lab Sample Nar	ne:	680-130404-1	Sam	ple Date:	10/1/2016 9:45:00 AM					
Analyte	Total	/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Dissolved Organic Carbon	T		7440-44-0	2	1	0.5	mg/L			
Total Organic Carbon	T		7440-44-0	1.5	1	0.5	mg/L			
Sample Name		ADW-021_	100116					Matrix Type	• Water	
Lab Sample Nar	ne:	680-130404-3	Sam	ple Date:	10/1/2016 8:15:00 AM					
Analyte	Total	/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Dissolved Organic Carbon	T		7440-44-0	2.3	1	0.5	mg/L			
Гotal Organic Carbon	T		7440-44-0	1.5	1	0.5	mg/L			
Sample Name		ADW-022_	093016					Matrix Type	: Water	
Lab Sample Nar	ne:	680-130404-5	Sam	ple Date:	9/30/2016 8:30:00 AM					
Analyte	Total	/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes

Tuesday, November 01, 2016 Page 9 of 13

$\Delta naivsis Meinoa = 3310 D-201$	Analysis	Method	5310	B-2011
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Dissolved Organic Carbon	T	7440-44-0	2	1	0.5	mg/L
Total Organic Carbon	T	7440-44-0	1.5	1	0.5	mg/L

Sample Name GKM05_093016 Matrix Type: Water

Lab Sample Name: 680-130404-7 **Sample Date:** 9/30/2016 4:15:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Dissolved Organic Carbon	T	7440-44-0	2.2	1	0.5	mg/L			
Total Organic Carbon	T	7440-44-0	0.95	1	0.5	mg/L	J	J	

Analysis Method 6010C

Sample Name ADW-010_SED_100116 Matrix Type: Solid

Lab Sample Name: 680-130404-2 **Sample Date:** 10/1/2016 9:45:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	7300	22	3.3	mg/Kg			
Calcium	T	7440-70-2	5300	54	5.6	mg/Kg			
Iron	T	7439-89-6	11000	22	5.7	mg/Kg			
Magnesium	T	7439-95-4	1900	54	9.6	mg/Kg	F1	J-	Q
Potassium	T	7440-09-7	1100	110	2.7	mg/Kg			
Sodium	T	7440-23-5	110	220	52	mg/Kg	J	J	

Sample Name ADW-021_SED_100116 Matrix Type: Solid

Lab Sample Name: 680-130404-4 **Sample Date:** 10/1/2016 8:15:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	3200	22	3.4	mg/Kg			
Calcium	T	7440-70-2	3100	55	5.7	mg/Kg			
Iron	T	7439-89-6	5400	22	5.8	mg/Kg			_
Magnesium	T	7439-95-4	890	55	9.8	mg/Kg		J-	Q
Potassium	T	7440-09-7	510	110	2.7	mg/Kg			
Sodium	T	7440-23-5	57	220	53	mg/Kg	J	J	

Sample Name ADW-022_SED_093016 Matrix Type: Solid

Lab Sample Name: 680-130404-6 **Sample Date:** 9/30/2016 8:30:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	6500	21	3.3	mg/Kg			
Calcium	T	7440-70-2	6000	53	5.5	mg/Kg			
Iron	T	7439-89-6	12000	21	5.6	mg/Kg			

Tuesday, November 01, 2016 Page 10 of 13

Analysis Method 6010C

Magnesium	T	7439-95-4	1900	53	9.4	mg/Kg	J-	Q
Potassium	T	7440-09-7	960	110	2.6	mg/Kg		
Sodium	T	7440-23-5	290	210	50	mg/Kg		

Sample Name GKM05_SED_093016 Matrix Type: Solid

Lab Sample Name: 680-130404-8 **Sample Date:** 9/30/2016 4:15:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	6500	24	3.7	mg/Kg			
Calcium	T	7440-70-2	4900	60	6.2	mg/Kg			
Iron	T	7439-89-6	24000	24	6.4	mg/Kg			
Magnesium	T	7439-95-4	3500	60	11	mg/Kg		J-	Q
Potassium	T	7440-09-7	1000	120	3	mg/Kg			
Sodium	T	7440-23-5	58	240	58	mg/Kg	U	U	

Analysis Method 6020A

Sample Name ADW-010_SED_100116 Matrix Type: Solid

Lab Sample Name: 680-130404-2 **Sample Date:** 10/1/2016 9:45:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	0.11	1.1	0.11	mg/Kg	U F1	UJ	Q
Arsenic	T	7440-38-2	3.7	0.32	0.11	mg/Kg			
Barium	T	7440-39-3	190	0.54	0.065	mg/Kg			
Beryllium	T	7440-41-7	0.57	0.054	0.016	mg/Kg			
Cadmium	T	7440-43-9	0.14	0.054	0.016	mg/Kg			
Chromium	T	7440-47-3	5.1	1.1	0.12	mg/Kg	В		
Cobalt	T	7440-48-4	5	0.054	0.011	mg/Kg			
Copper	T	7440-50-8	11	0.54	0.14	mg/Kg			
Lead	T	7439-92-1	11	0.22	0.054	mg/Kg			
Manganese	T	7439-96-5	280	1.1	0.13	mg/Kg			
Molybdenum	T	7439-98-7	0.39	1.1	0.086	mg/Kg	J	J	
Nickel	T	7440-02-0	5.8	1.1	0.28	mg/Kg			
Selenium	T	7782-49-2	4.1	0.54	0.11	mg/Kg			
Silver	T	7440-22-4	0.046	0.11	0.011	mg/Kg	J	J	
Thallium	T	7440-28-0	0.099	0.11	0.054	mg/Kg	J	J	
Vanadium	T	7440-62-2	14	0.54	0.29	mg/Kg	В		
Zinc	T	7440-66-6	53	2.2	1.1	mg/Kg			

Sample Name ADW-021_SED_100116 Matrix Type: Solid

Lab Sample Name: 680-130404-4 **Sample Date:** 10/1/2016 8:15:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
Antimony	T	7440-36-0	0.11	1.1	0.11	mg/Kg	U	UJ	Q	_

Tuesday, November 01, 2016 Page 11 of 13

Arsenic	T	7440-38-2	2.9	0.33	0.11	mg/Kg			
Barium	T	7440-39-3	130	0.55	0.066	mg/Kg			
Beryllium	T	7440-41-7	0.26	0.055	0.016	mg/Kg			
Cadmium	T	7440-43-9	0.11	0.055	0.016	mg/Kg			
Chromium	T	7440-47-3	2.3	1.1	0.12	mg/Kg	В		
Cobalt	T	7440-48-4	2.5	0.055	0.011	mg/Kg			
Copper	T	7440-50-8	6.6	0.55	0.14	mg/Kg			
Lead	T	7439-92-1	11	0.22	0.055	mg/Kg			
Manganese	T	7439-96-5	220	1.1	0.13	mg/Kg			
Molybdenum	T	7439-98-7	0.24	1.1	0.088	mg/Kg	J	J	
Nickel	T	7440-02-0	2.9	1.1	0.29	mg/Kg			
Selenium	T	7782-49-2	2.7	0.55	0.11	mg/Kg			
Silver	T	7440-22-4	0.047	0.11	0.011	mg/Kg	J	J	
Thallium	T	7440-28-0	0.055	0.11	0.055	mg/Kg	U	U	
Vanadium	T	7440-62-2	6.9	0.55	0.3	mg/Kg	В		
Zinc	T	7440-66-6	60	2.2	1.1	mg/Kg			

Sample Name ADW-022_SED_093016 Matrix Type: Solid

Lab Sample Name: 680-130404-6 **Sample Date:** 9/30/2016 8:30:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	0.25	1.1	0.11	mg/Kg	J	J-	Q
Arsenic	T	7440-38-2	4.7	0.32	0.11	mg/Kg			
Barium	T	7440-39-3	190	0.53	0.063	mg/Kg			
Beryllium	T	7440-41-7	0.5	0.053	0.016	mg/Kg			
Cadmium	T	7440-43-9	0.51	0.053	0.016	mg/Kg			
Chromium	T	7440-47-3	4	1.1	0.12	mg/Kg	В		
Cobalt	T	7440-48-4	5.4	0.053	0.011	mg/Kg			
Copper	T	7440-50-8	21	0.53	0.14	mg/Kg			
Lead	T	7439-92-1	51	0.21	0.053	mg/Kg			
Manganese	T	7439-96-5	730	1.1	0.13	mg/Kg			
Molybdenum	T	7439-98-7	1.1	1.1	0.084	mg/Kg			
Nickel	T	7440-02-0	5.3	1.1	0.27	mg/Kg			
Selenium	T	7782-49-2	3.1	0.53	0.11	mg/Kg			
Silver	T	7440-22-4	0.33	0.11	0.011	mg/Kg			
Thallium	T	7440-28-0	0.093	0.11	0.053	mg/Kg	J	J	
Vanadium	T	7440-62-2	16	0.53	0.28	mg/Kg	В		
Zinc	T	7440-66-6	240	2.1	1.1	mg/Kg			

Sample Name GKM05_SED_093016 Matrix Type: Solid

Lab Sample Name: 680-130404-8 **Sample Date:** 9/30/2016 4:15:00 PM

Analyte Total/Dissolved CAS No Result Reporting MDL Result Lab Validation Value Limit Units Qualifier Qualifier Notes

Tuesday, November 01, 2016 Page 12 of 13

Analysis	Method	6020A
Antimony	T	74

Antimony

7440-36-0

Sample Nam Lab Sample N Mercury Sample Nam Lab Sample N Analyte Mercury Sample Nam Lab Sample Nam Lab Sample Nam Lab Sample Nam Lab Sample Nam	Total/Dissolved T ADW-022 Name: 680-130404- Total/Dissolved T GKM05_9	CAS No 7439-97-6 2_SED_09301 6 Sam CAS No 7439-97-6 SED_093016	Result Value 0.0092 6 ple Date: Result Value 0.0089	10/1/2016 8:15:00 Reporting Limit 0.023 9/30/2016 8:30:00 Reporting Limit 0.022 9/30/2016 4:15:00 Reporting Limit	MDL 0.0092 AM MDL 0.0089	Result Units mg/Kg Result Units mg/Kg	Lab Qualifier U Matrix Type Lab Qualifier U Matrix Type	Validation Qualifier U Solid Validation Qualifier U	Validation Notes
Lab Sample Nam Lab Sample Nam Lab Sample Nam Analyte Mercury Sample Nam	Total/Dissolved T ADW-022 Name: 680-130404- Total/Dissolved T GKM05_9	CAS No 7439-97-6 2_SED_09301 6 Sam CAS No 7439-97-6 SED_093016	Result Value 0.0092 6 ple Date: Result Value 0.0089	Reporting	MDL 0.0092 AM MDL 0.0089	Result Units mg/Kg Result Units mg/Kg	Lab Qualifier U Matrix Type Lab Qualifier	Validation Qualifier U Solid Validation Qualifier U	Validation
Lab Sample Mercury Sample Nam Lab Sample N Analyte	Total/Dissolved T ADW-022 Name: 680-130404- Total/Dissolved T	CAS No 7439-97-6 2_SED_09301 -6 Sam CAS No	Result Value 0.0092 6 ple Date: Result Value	Reporting Limit 0.023 9/30/2016 8:30:00 Reporting Limit	0.0092 AM MDL	Result Units mg/Kg Result Units mg/Kg	Lab Qualifier U Matrix Type Lab Qualifier	Validation Qualifier U Solid Validation Qualifier U	Notes Validation
Lab Sample Manalyte Mercury Sample Nan Lab Sample Manalyte	Total/Dissolved T ADW-022 Name: 680-130404 Total/Dissolved	CAS No 7439-97-6 2_SED_09301 -6 Sam CAS No	Result Value 0.0092 6 ple Date: Result Value	Reporting Limit 0.023 9/30/2016 8:30:00 Reporting Limit	0.0092 AM MDL	Result Units mg/Kg Result Units	Lab Qualifier U Matrix Type Lab Qualifier	Validation Qualifier U Solid Validation Qualifier	Notes Validation
Lab Sample Manalyte Mercury Sample Nam Lab Sample M	Total/Dissolved T ADW-022 Name: 680-130404-	CAS No 7439-97-6 2_SED_09301 -6 Sam	Result Value 0.0092 6 ple Date: Result	Reporting Limit 0.023 9/30/2016 8:30:00 Reporting	MDL 0.0092	Result Units mg/Kg	Lab Qualifier U Matrix Type	Validation Qualifier U Solid Validation	Notes Validation
Lab Sample Manalyte Mercury Sample Nam	Name: 680-130404- Total/Dissolved T ne ADW-022	CAS No 7439-97-6 2_SED_09301	Result Value 0.0092	Reporting Limit	MDL 0.0092	Result Units	Lab Qualifier	Validation Qualifier U	
Lab Sample Manalyte	Name: 680-130404 Total/Dissolved	CAS No 7439-97-6	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier U	
Lab Sample M	Name: 680-130404 Total/Dissolved	CAS No	ple Date: Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	
Lab Sample N	Name: 680-130404	-4 Sam	ple Date: Result	Reporting		Result	Lab	Validation	
-				10/1/2016 8:15:00	AM]	Matrix Type	: Solid	
Sample Nan	ne ADW-021	_SED_10011	. 0]	Matrix Type	: Solid	
	ADW 021	_SED_10011	6						
Mercury	T	7439-97-6	0.0089	0.022	0.0089	mg/Kg	U	U	
Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Lab Sample N	Name: 680-130404	-2 Sam	ple Date:	10/1/2016 9:45:00	AM				
Sample Nan	ne ADW-010)_SED_10011	.6]	Matrix Type	: Solid	
Analysis 1	Method 747	71A							
Zinc	T	7440-66-6	800	2.4	1.2	mg/Kg			
Vanadium	T	7440-62-2	35	0.6	0.32	mg/Kg	В		
Γhallium	T	7440-28-0	0.13	0.12	0.06	mg/Kg			
Silver	T	7440-22-4	1.1	0.12	0.012	mg/Kg			
Selenium	Т	7782-49-2	3.6	0.6	0.12	mg/Kg			
Nickel	T	7440-02-0	9.3	1.2	0.31	mg/Kg			
Molybdenum	T	7439-98-7	2.5	1.2	0.096	mg/Kg			
Manganese	T	7439-92-1	2100	12	1.4	mg/Kg			
Copper Lead	T	7439-92-1	210	0.0	0.16	mg/Kg			
Cobalt	T T	7440-48-4	10 89	0.06	0.012	mg/Kg			
Chromium	T	7440-47-3	11	1.2	0.13	mg/Kg	В		
GI :	T	7440-43-9	2.4	0.06	0.018	mg/Kg	D.		
Cadmium	T	7440-41-7	0.56	0.06	0.018	mg/Kg			
Beryllium Cadmium				0.6	0.072	mg/Kg			
Beryllium	T	7440-39-3	130						
	T T	7440-38-2	10	0.36	0.12	mg/Kg			

1.2

0.12

mg/Kg

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Tuesday, November 01, 2016 Page 13 of 13